

**Objective:**

Recall aerosol facts from unit.

Instructional Delivery:

Whole group

Activity:

1. Organize the classroom to form two teams.
2. Draw a large tic-tac-toe board on the chalkboard. Allow the students to name their team so that a point method can easily be monitored.
3. Use the tossing of a penny to determine the indicator per team. Example: When tossing the penny, Heads can be "o" and Tails can be "x".
4. One player from each team will compete against the opposing team player to answer a question. The opponent who answers correctly will go to the board and mark appropriately. The participant can consult with team players on where to place the mark. Marks can be made by using chalk or magnetic "o's" and "x's".
5. It is recommended that the students be allowed to use their trading cards during the game, but this is an option.
6. More questions can be generated from other lessons and/or the glossary.

Suggested Tic-Tac-Toe Questions:

- What does the SAGE II Instrument measure in the atmosphere?
 - (ozone and other gases)
- The less sunlight that gets through the atmosphere at a specific wavelength can mean ___?

- (that more of a particular gas is absorbing it)
- When was SAGE II launched?
 - (October 1984)
- What does the SAGE mean?
 - (Stratospheric Aerosol and Gas Experiment)
- After a volcanic eruption, aerosols linger in the atmosphere for a short time or a long time?
 - (long time)
- True or False. Aerosols can cause a chemical reaction in the atmosphere?
 - (true)
- Atmospheric aerosols that are blown from the desert are called?
 - (desert dust)
- Name the steep volcanic cone built by both lava flows and fragmented materials.
 - (composite volcano)
- This instrument is used to measure brightness?
 - (Photometer)
- A bowl-shaped volcano built entirely of loose fragmented materials?
 - (cinder cone)

- Tiny particles suspended in the atmosphere (suspension of liquid or solid matter in the air) are called?
 - (aerosols)

- Which aerosol influences the Earth's climate the most: human-made, desert dust, or volcanic aerosols?
 - (volcanic aerosols)

- A three generation project focusing on the collection of data about aerosols in the stratosphere is called?
 - (SAGE - Stratospheric Aerosol and Gas Experiment)

- Name the second layer of the atmosphere, starting at about 15 km (9 miles) above the Earth's surface and extending to a height of about 50 km (30 miles)?
 - (stratosphere)

- Name the lowest atmospheric layer where essentially all weather occurs?
 - (troposphere)

- A tall and broad volcano in the shape of a flattened dome, built almost exclusively of lava flow?
 - (shield volcano)

- Name the envelope of gases surrounding the Earth and bound to the Earth's gravitational attraction?
 - (atmosphere)

- The eruption of this Indonesian volcano is thought to have caused the "year without a summer"?

- (Tambora)

- Name the term used for the average or expected weather conditions in a particular region or season?
 - (climate)

- A heavy toxic gas that is easily condensed to a colorless liquid and is a major air pollutant?
 - (sulfur dioxide - SO₂)